American Superconductor®

March 18, 2009

The Honorable Tammy Baldwin
2446 Rayburn HOB
Washington DC 20515

Congresswoman Baldwin:

I write seeking your support for American Superconductor's request for $6,000,000 in federal funding for the development and deployment of a 10-megawatt superconductor wind turbine.

The Secretary of Energy, Dr. Steven Chu, has called for doubling the amount of wind, solar and geothermal generating capacity within the next three years. Additionally, the Obama Administration has targeted wind energy to grow from today's 1% of generation to 20% by 2030, requiring an additional 290,000 megawatts (MW) of wind generation capacity (more than 13,000 MW per year).

These aggressive policy targets will require a massive increase in wind turbine production to harness the nation's land and offshore wind resources. Since a typical wind turbine in production today delivers only about 1.6-MW worth of generating capacity, more than 8,000 wind turbines would have to be produced each year for the next two decades to meet the Department of Energy's 20% target. Add to this the fact that most of the wind turbine technology and production needed for this buildout currently resides in Europe and Asia -- not in America.

Clearly, building larger and more efficient wind turbines in the United States is an essential requirement toward meeting the country's wind production goal.

Development of an American-made and designed 10-MW superconductor wind turbines would "leapfrog" current European wind technology and thrust America into the technology lead. This, together with the expected surge in demand for wind capacity driven by the Administration's renewable energy goals, will create a new manufacturing industry for both domestic and export markets.

A 10-MW superconductor wind turbine would be capable of:

- Harvesting 10-MW of wind power with each turbine (6 times today's average size)
- Increasing average wind turbine efficiency by as much as 4%
- Reducing costly turbine downtime and streamlining the stressed manufacturing supply chain by eliminating the maintenance intensive gear sub-system
- Opening up the nations Great Plains and offshore wind resources with high capacity wind machines
- Reducing the overall cost of wind energy production

American Superconductor Corporation (AMSC) just completed a $100 million program to build and demonstrate an ultra compact 36.5-MW (50,000 HP) superconductor propulsion motor for the U.S. Navy.

This program set a new record as the most powerful naval motor in the world with a machine size and weight less than one third of a conventional motor. This same technology will power the 10-MW superconductor direct-drive (10-15 rpm) wind turbine.

The advantages of a 10-MW Superconductor Wind Turbine have merited funding from both the Department of Commerce (2007 Award) and Department of Energy, National Renewable Energy Laboratory (2009 Award).

Thank you for your consideration of this request.

Chuck Stankiewicz, Executive Vice President
American Superconductor